

THE AUK :

A QUARTERLY JOURNAL OF

ORNITHOLOGY.

VOL. XXII.

APRIL, 1905.

No. 2.

SUMMER BIRDS IN THE BAHAMAS.

BY GLOVER M. ALLEN.

Plate I.

THIS is the third of a series of short papers on the results of a visit to the northern Bahamas in July, 1904, made by the writer in company with Mr. Thomas Barbour and Mr. Owen Bryant.

Notwithstanding that the birds of the Bahamas are now fairly well known, the following account of the species observed during our cruise among the cays and larger islands of the northern part of the group is of interest partly because most of the ornithological work in this region has been done in the winter and spring, and partly because these northern islands are apt to be neglected by visitors who pass at once to those of the more southern and eastern groups. Indeed, the summer avifauna of Great Bahama and the northeastern cays is very little known. Mr. F. M. Chapman, so recently as 1891, wrote that of "Great Bahama we know nothing; no ornithologist has ever visited it."¹ Later in the same year, however, Cory² published a list of birds obtained by his collector, C. S. Winch, at Great Bahama and Abaco, in March and June. Mr. Robert Ridgway³ listed the specimens obtained in March and April from Abaco and the more southern islands by

¹ Chapman : Amer. Naturalist, Vol. XXV, 1891, p. 536.

² Cory : Auk, Vol. VIII, 1891, pp. 298, 350.

³ Ridgway : Auk, Vol. VIII, 1891, p. 333-339.

the naturalists of the Fish Commission steamer 'Albatross,' and Mr. J. L. Bonhote¹ has also reported on a collection of birds made during the winter of 1901-02 among the northern Bahamas.

From June 28 until July 28, the writer, in company with Messrs. T. Barbour and O. Bryant, was engaged in studying the bird life in the vicinity of Nassau and, more particularly, of Great Abaco, Little Abaco, Great Bahama, and the chain of cays along the northern shores of these latter islands. Altogether, some three weeks were spent cruising among the northern Bahamas. During the first week of August, Mr. Bryant also visited Andros, and a few notes are here included based on his collections there.

Among the spongers or 'conchs' of the northern Bahamas, the larger islands,—Great Abaco, Little Abaco, Great Bahama,—are termed the 'Mainland,' while the fringe of small islands to the north and east are the 'wind'ard' cays, and those to the south and west the 'leeward' cays. The majority of the windward cays are small islands but a few feet above tide-water, covered with sand and supporting a tangled growth of scrubby bushes, palmetos, and small trees, here and there bound together by matted creepers. This is called 'coppet' by the natives. Often there is a narrow strip of more open ground just back of the beach, thinly covered with coarse grass and weeds, though in other places a thicket of mangroves may extend out to low-tide level or even slightly beyond. Many of the smallest cays are simply jagged rocks with a little grass growing here and there.

The larger 'main' islands support extensive tracts of open pine barrens, with a thick undergrowth of vines and bushes. Clearings have been made here and there, and pineapples, sweet potatoes, sugar cane, and other subtropical products are grown on a small scale, although the soil is thin and quickly becomes exhausted. In certain parts of these larger islands a number of deciduous trees thrive and often form a fairly respectable forest.

The seemingly barren cays afford a home for a large number of birds. Sooty, Bridled, Noddy, and Roseate Terns nest in the grass of the more open portions; Wilson's Plovers haunt the sea beach, and Nighthawks frequent the dry strip of open ground

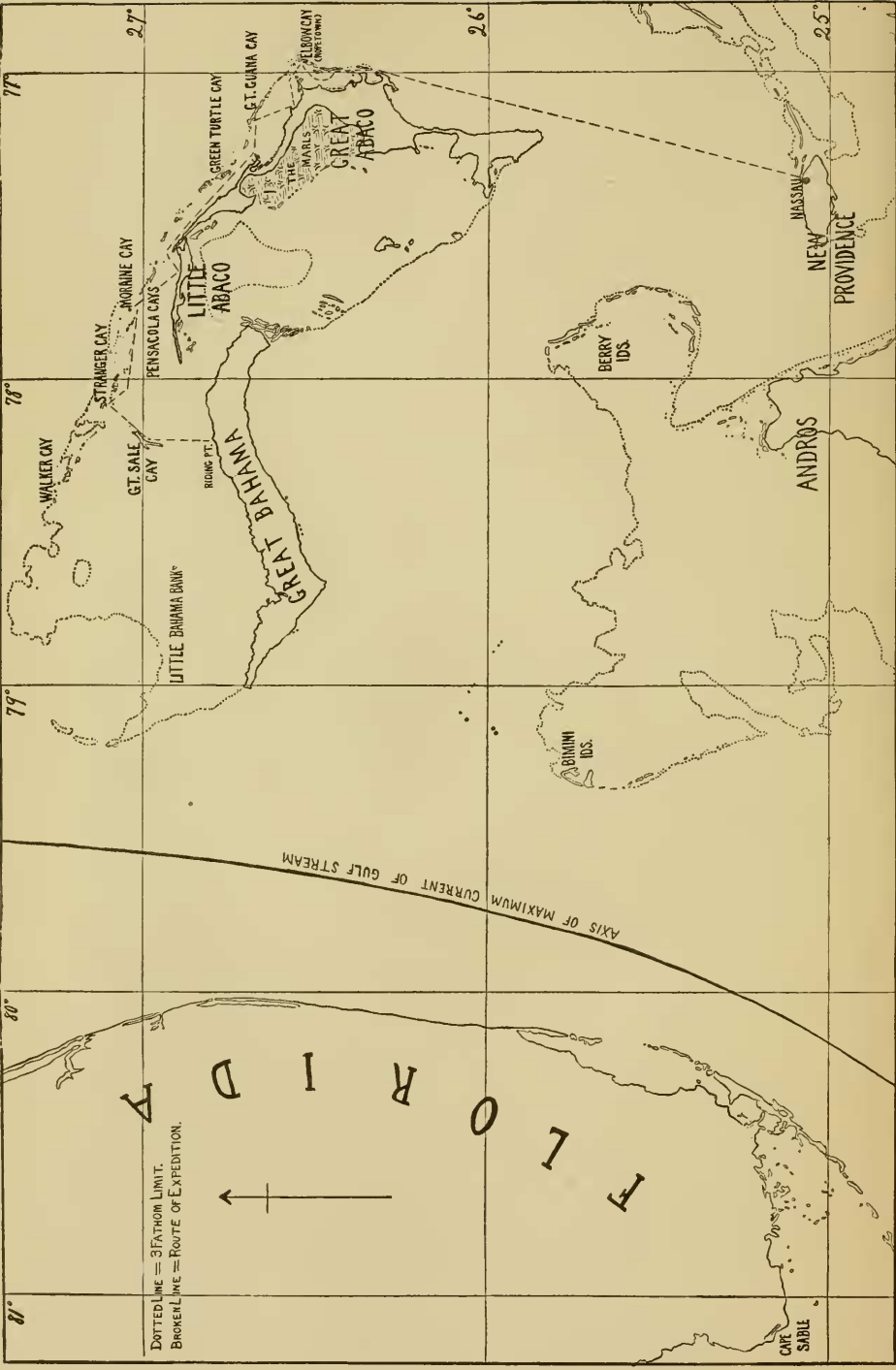
¹ Bonhote: *Ibis*, Ser. 8, Vol. III, 1903, p. 273-315.

just back of the shore. Among the thick growth of bushes are to be found Honey Creepers, Thick-billed Vireos, Yellowthroats, and the Bahama Mockingbird. Numbers of White-headed Pigeons breed on some of the cays, while Bahaman Red-wings, and Gray Kingbirds inhabit the edges of the thickets and the mangrove swamps.

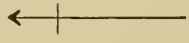
On the large islands, the pine woods afford a home for Blake's and Hairy Woodpeckers, Pine Warblers, Bahaman Warblers, and other species. Some birds are of common occurrence in nearly all situations; for example, the Gray Kingbird, the two Hummingbirds (in the northern islands), and Honey Creepers.

The resident avifauna of the Bahama Islands is of considerable interest. Mr. Chapman, in his important paper on the origin of this fauna, has distinguished four classes of resident species: (1) those representing forms of general distribution, (2) those which occur as island forms of continental species, (3) those of purely West Indian origin, (4) represented by the Bahaman Swallow, a genus peculiar to the group. He points out that although the northernmost islands of the Bahama group are over one hundred miles farther north than the southern point of Florida, and are separated from that peninsula by only 60 miles of water, yet there is almost no tendency on the part of the Bahaman species to cross to the continent, and this notwithstanding that the prevailing winds are favorable for such flights. One reason for the failure of these island species to occur elsewhere is doubtless that many of them are thicket frequenters and hence would rarely be blown from their normal habitat. The uniform presence of many West Indian species throughout the islands, even to the most northern of the group, is a striking feature, and serves to emphasize the distinctness of this fauna from that of the adjacent mainland.

Several of the species of birds common to the Bahamas as a whole, show a tendency to become differentiated into local races on some of the groups. Thus certain of the birds of the northern Bahamas differ from the corresponding varieties of New Providence and its immediately neighboring islands, so as to be recognizable as distinct subspecies, but with one possible exception, such birds do not differ subspecifically on the *different islands* of this group. Thus the Hairy Woodpecker of Great Bahama, Little

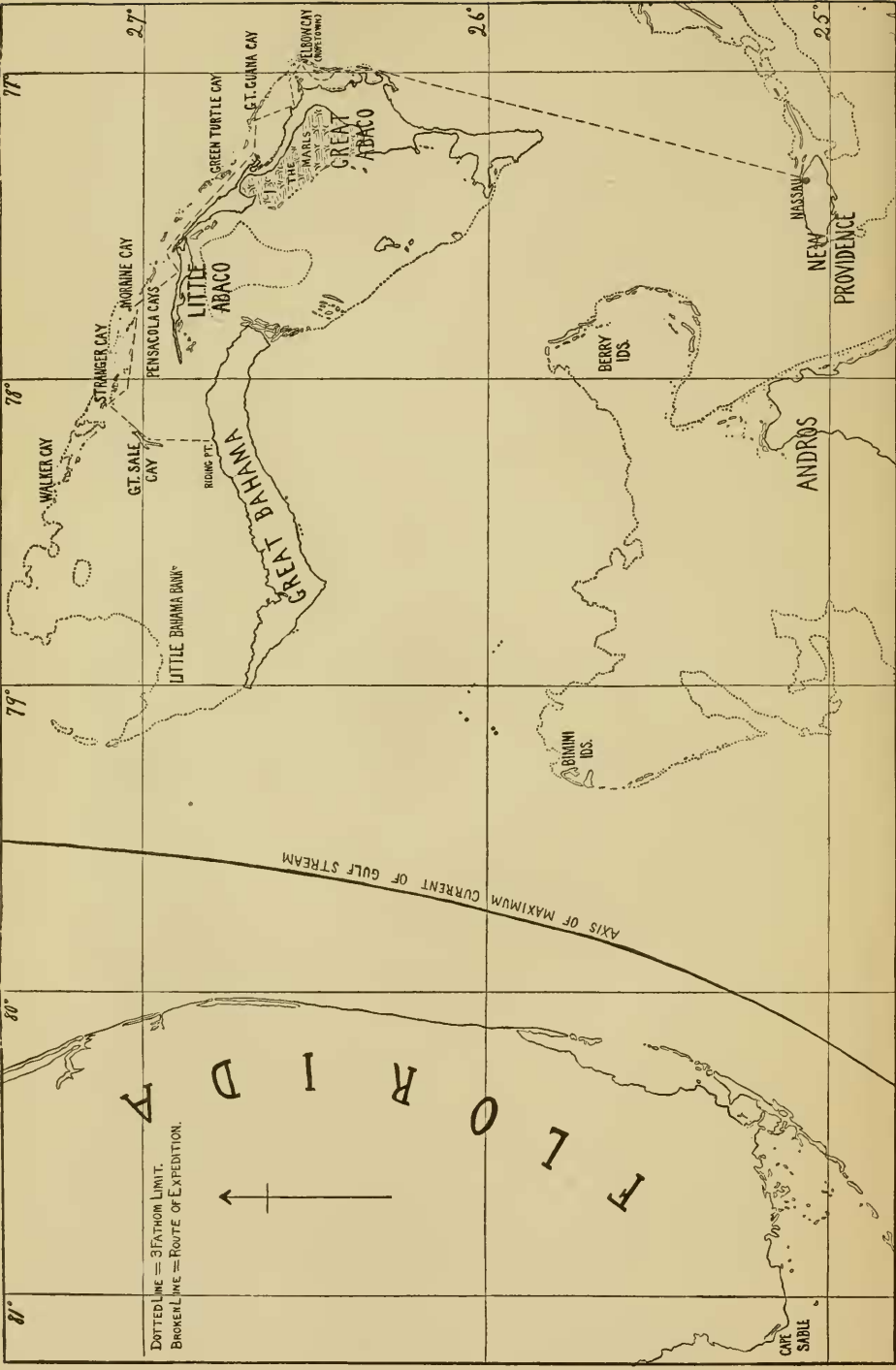


DOTTED LINE = 3 FATHOM LIMIT.
 BROKEN LINE = ROUTE OF EXPEDITION.



FLORIDA STRAITS

AXIS OF MAXIMUM CURRENT OF GULF STREAM



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 BROKEN LINE = ROUTE OF EXPEDITION.



FLORIDA STRAITS

AXIS OF MAXIMUM CURRENT OF GULF STREAM

Abaco, and Abaco is uniformly different from the true *maynardi* of New Providence. *Spindalis zena townsendi* is the *Spindalis* of the northern group. It occurs on the larger islands, and is quite distinct from true *zena* of the more southern islands. The Abaco Pine Warbler is the same as that found among the pine woods of Great Bahama, and is represented on New Providence by the quite distinct race *achruster*. Tanner's Yellowthroat is to be found in summer throughout the bushy parts of the larger islands and cays of the northern Bahamas, and was the only Yellowthroat we found. It is not known to occur elsewhere. The reason for this homogeneity among birds of the northern Bahamas is doubtless that the land masses are practically contiguous or only separated from one another by slight stretches of quiet water, while between them and the more southern groups (New Providence, etc.) some 40 or 50 miles of rough sea intervene.

According to Cory,¹ the *Centurus* of Great Bahama Island is subspecifically distinct from that found on Abaco. In view of what has just been said this is rather unexpected, and as the characters claimed for the Great Bahama bird are very slight, it is not unlikely that a large series would show the same variations on both islands.

In the following list, a few notes are included on birds seen during the voyage between New York and Nassau. The local names of the birds are also appended in quotation marks.

1. *Larus atricilla* Linn. LAUGHING GULL; "GULLIE."—Throughout the smaller cays and along the shores of the larger islands these birds were rather common in pairs, and were breeding. Most of those seen apparently had young near by, and invariably followed us with cries of protest whenever we were near their nesting sites. We saw a number of young birds that were evidently but a few days old, yet able to scramble nimbly about over the rough rocks.

2. *Sterna maxima* Bodd. ROYAL TERN; "RED SHANK."—Royal Terns were not uncommon about the islands, though we rarely saw more than two or three at a time flying over the quieter waters or sunning on the mud flats. We found no sign of their breeding.

3. *Sterna dougalli* Montag. ROSEATE TERN; "BLACK SHANK."—Rather common among the outer cays where it was breeding in early

¹ Cory: Auk, Vol. IX, 1892, p. 270.

July. The local name "Black Shank" is derived from the fact that the bird's beak is black, whereas the Royal Tern, with a reddish bill, is the "Red Shank."

4. *Sterna antillarum* (Less.). LEAST TERN; "KILL-'EM-POLLY."—On several of the smaller islands this little tern was breeding, and we found eggs during the first week of July near Elbow Cay. Although we found no large colonies, yet the bird was constantly met with in small numbers throughout our cruise. Several times they were seen with flocks of other terns following schools of small fishes.

5. *Sterna fuliginosa* Gmel. SOOTY TERN; "EGG BIRD."—Abundant among the smaller islands.

6. *Sterna anæthetus* Scop. BRIDLED TERN; "EGG BIRD."—One adult ♂ shot July 4, 1904, at Long Rock, off Abaco. The natives apply the term "Egg Bird" indiscriminately to these two species. We were not always able to distinguish between the two and did not wish to shoot the birds unnecessarily. At several places, notably at Fish Cays, we found immense numbers of terns breeding, most of which were seemingly Sooties. Many young birds were seen still in the down during July, while eggs were also plentiful. The crews of the sponging vessels gather quantities of these eggs for food during their voyages among the islands. Several of the young birds were captured and kept aboard our vessel during the cruise. They made interesting pets as they ate eagerly, were active and inquisitive, and wholly without fear. Their constant peeping, however, became eventually quite distracting.

7. *Anous stolidus* (Linn.). NODDY.—At Fish Cays, on July 14, we saw a number of Noddies among the hundreds of other terns of the two preceding species. This was evidently a large breeding colony. Elsewhere we saw Noddies on only a few occasions and in small numbers.

8. *Puffinus gravis* (O'Reilly). GREATER SHEARWATER.—On the afternoon of the second day out from New York (June 25), and some 250 to 300 miles south of that port, we began to see shearwaters in small numbers. Most of them were apparently of this species and usually appeared singly, flying in their characteristic manner, at some distance from the vessel. Sometimes two or three would pass by together, and once we saw a flock of eight. Only one was seen during the last day of the voyage to Nassau. Very few were observed on our return trip to New York, the first one making its appearance some 300 miles north of Nassau, off Georgia.

9. *Puffinus lherminieri* Less. AUDUBON'S SHEARWATER; "PIMLICO."—Although this shearwater breeds commonly in the Bahamas earlier in the season, we found none nesting at the time of our visit. Occasional individuals of what appeared to be this species were seen at sea with the preceding species. A few were also seen at nightfall as we left Nassau in our schooner, July 3, but otherwise we saw none among the islands during our cruise save for a single female which was captured under a rock on Pelican Island late in the afternoon of July 14. Several times loud cries

were heard overhead at night as we lay off shore which probably came from these birds, though as noted by Mr. Bonhote, the cry is very similar to that of the Sooty Terns.

10. *Oceanites oceanicus* (Kuhl). WILSON'S PETREL.—Petrels were seen from the first morning out of New York until we had crossed the Gulf Stream off Hatteras. During this time large flocks of from 30 to 50 birds were occasionally seen, while a few were almost constantly observed flying zig-zag back and forth over the steamer's wake some hundred yards or more astern. After entering upon the Gulf Stream and the warmer waters to the south, only one or two single birds were seen, the last being in about lat. 28° N. Cory, while cruising among the Bahamas at an earlier time of the year, found petrels abundant at a short distance off the coast, which might indicate that the birds were at that time passing through the latitude of the Bahamas and by July, when we made our trip, the main flight had passed still farther to the northward. On our return voyage, July 28–31, the first petrels, three or four in number, were observed after crossing the Gulf Stream off Hatteras Light, but they did not become common until we were within some 300 or 400 miles of Sandy Hook.

11. *Phaëthon americanus* Grant. YELLOW-BILLED TROPIC BIRD; "TROPIC."—But few Tropic Birds were seen among the northern Bahamas. At Hurricane Hole, near the northeastern end of Great Abaco, a small colony was nesting and a few other birds were seen about some of the rocky islets near Elbow Cay.

12. *Sula sula* (Linn.). BOOBY.—Mr. Bryant obtained a single immature specimen near Andros Island about August 1.

13. *Phalacrocorax dilophus floridanus* (Aud.). FLORIDA CORMORANT; "CORMORIL."—This appears to be an uncommon and local species at the present day among the northern Bahamas. We found but three small rookeries. The first of these was visited by Messrs. Barbour and Bryant, July 7, and consisted of some ten pairs of birds which were breeding on the south side of Great Abaco. On July 16, at Great Sale Cay, we came upon a small colony of less than half a dozen pairs. Four or five new nests were discovered about 15 feet up, in the tops of some large mangroves by the water's edge. Only three of these nests were in use, apparently. Two held newly hatched young while the third contained one egg and one very young bird. A small isolated clump of mangroves near the nests may have been used as a roost by the non-incubating birds for its thick branches were well whitewashed with excrement. A third small colony of cormorants was found at Great Bahama, near Riding Point, but we were told that the birds were then through breeding. Two adult specimens which we secured are scarcely different from the true *dilophus* of the north, being rather larger than typical Florida specimens. These latter, however, vary considerably in size among themselves.

14. *Pelecanus occidentalis* (Linn.). BROWN PELICAN.—Although Brown Pelicans are said to breed abundantly on some of the Bahama

Islands, we saw but few throughout our trip among the northern islands. Two were observed on July 6, among the Marls of Great Abaco, and again, on July 11, we sailed up very near to a single bird as it sat sedately on one of the small rocky islets of the Pensacola Cays.

15. *Fregata aquila* (Linn.). MAN-O'-WAR BIRD.—These birds are common throughout the islands but we found no nests and rarely saw many together save at their roosts. Two large roosts were visited. One of these, at Great Abaco, was a large isolated clump of mangroves rising from the shallow waters of the "bight" to the south of Marsh Harbor. Thither the birds began to repair some hours before sunset, but evidently did not settle down till towards nightfall. As we passed this roost, locally known as "Man-o'-war Bush," at about daybreak of July 6, some fifty or more birds flew off and scattered in all directions. The other roost mentioned was at Fish Cays, Great Abaco. Some of our crew visited this roost after dark on July 5, and captured ten birds alive among the big mangroves. These were of both sexes, and two which we kept alive aboard our schooner became fairly tame. Though they had the liberty of the ship, they seemed unwilling or unable to fly away, but perched contentedly on the anchor chains or about the capstan, and ate greedily of the fresh fish we gave them. They were rather ill-tempered, however, and were quick to take offence if crowded or jostled. With their sharp beaks they would lay hold of passers-by or of one another, and could inflict a considerable wound. One of the birds eventually perished, but the other stayed by us throughout most of our trip. When finally we reached Great Abaco on our return voyage, we tossed him into the air, and he shook himself together with a curious motion and sailed away out of sight.

16. *Pæcilonetta bahamensis* (Linn.). BAHAMA DUCK.—On the south side of Great Abaco, stretching for many miles east and west, is a tide-water region locally known as "the Marls." Long reaches of shallow water alternate with clayey flats a few inches above tide level. These flats are thinly covered with a growth of small mangroves, grasses, and a few other halophytes while here and there are little pools surrounded by taller mangrove bushes. In this sort of country we found a good number of these handsome ducks. Most of those seen were in pairs, but one flock of fifteen birds was started from a small pond among the mangroves, July 6. Cory found them breeding at Andros about the last of May.

17. *Phœnicopterus ruber* (Linn.). FLAMINGO; "FILLYMINGO."—Mr. Bonhote¹ states that he was unable to ascertain certainly whether the Flamingo still exists on Great Abaco, but we were more fortunate. So far as we could learn from exploration and inquiry there is but a single colony of these gorgeous birds among the northern Bahamas. This colony inhabits the great "Marls" of Abaco, but for the past two years

¹ Bonhote: *Ibis*, Ser. 8, Vol. III, 1903, p. 310.

none of the natives had been able to locate the nesting site. Mr. Barbour and the writer spent July 5 and 6 with two guides sailing among the intricate waterways of the "Marls" and were fortunate in finding one flock of 54 birds. They were very shy, however, and would not allow us to approach within gunshot. Most of them seemed to be old birds and they presented a brilliant sight standing in the water against a background of green. This apparently is the most northerly breeding colony on this coast. They are subject to constant persecution by the natives who esteem their flesh as preferable to that of the gaunt chickens of the Bahamas. The negroes believe that the birds possess a keen scent and in hunting them, try to approach from the leeward. Others approach from the windward as the birds must rise into the wind and hence come toward the hunter for a distance before swinging off. We purchased a male wing-tipped bird of some boys who had hunted this same flock on the day before our visit. He soon became very tame and greatly amused us with his ludicrous ways. "Filly," as he was dubbed by the crew, would stand all day in his feed-pan that contained a thin mixture of meal and water. We did not discover that he fed much in the daylight hours, but apparently he spent a large part of the night dabbling and sputtering in his meal. One of the crew aptly compared the continuous sound produced to that of a little waterfall. If approached or handled he would make feints at biting, at the same time uttering very duck-like *quacks*, but there seemed to be little power in his mandibles, for his bites were quite harmless. When angry he had an odd way of lowering his head well below the level of the body, at the same time bending his long neck into a sigmoid curve. We were finally obliged to chloroform the bird, and eventually ate the meat which was not unlike that of a fowl. The fleshy tongue is considered a particular delicacy.

18. *Ajaia ajaia* (Linn.). ROSEATE SPOONBILL.—A single Spoonbill was seen July 6, on the Marls of Great Abaco, by Messrs. Barbour and Bryant.

19. *Dichromanassa rufescens* (Gmel.). REDDISH EGRET; "WHITE ARSNICKER."—Several times we saw what were undoubtedly examples of this species, but all were in the white phase. In early July we saw a few on the Marls of Great Abaco, and a single bird on July 19 on the tide-water flats of Great Bahama. In all cases they were very wary and flew off long before we could approach within gunshot.

20. *Hydranassa tricolor ruficollis* (Gosse). LOUISIANA HERON; "POOR JOE."—This was perhaps the commonest heron we observed. A few were usually to be found about the mangrove swamps and one large rookery was visited July 7, on Great Abaco, where a number of young birds were seen about ready to leave their nests.

21. *Butorides bahamensis* (Brewster). BAHAMA GREEN HERON; "BITTERN" or "BITLIN."—Single birds were seen on most of the larger islands visited, including New Providence. On many of the cays they were also found among the mangroves. Specimens were taken which

seemed to be young of the year, and we found no signs that any birds were still breeding. On New Providence the expressive name "Poor Joe" is applied to this bird though elsewhere that term was reserved for the Louisiana Heron.

22. *Nyctanassa violacea* (Linn.). YELLOW-CROWNED NIGHT HERON; "GAULIN."—Although of general distribution among the northern Bahamas, we did not find this a common species. They breed early, and apparently were done nesting at the time of our visit.

23. *Rallus coryi* Maynard. CORY'S RAIL; "MARSH HEN."—A single specimen in very worn plumage was taken on the Marls of Great Abaco, July 6. We came upon the bird as we were making our way through a growth of small mangroves, where it stood tamely, watching our movements.

24. *Actodromas minutilla* (Vieill.). LEAST SANDPIPER.—A single female bird, doubtless one of the advance guard of the fall migrants, was taken at Great Bahama, on July 18.

25. *Totanus melanoleucus* (Gmel.). GREATER YELLOW-LEGS.—On the Great Abaco Marls we came upon one of these birds feeding about the edge of a small pool among the mangroves. The date, July 6, seems so early as to render it unlikely that the bird was a newly arrived migrant from the north.

26. *Symphemia semipalmata* (Gmel.). WILLET; "PILLY-WILICK."—Among the salt water marshes grown up to small mangroves and other bushes, and particularly among the Marls of Great Abaco, Willets were everywhere common. More often we saw them in pairs and their actions betokened that they were still breeding. One of our guides at Great Abaco said he found a nest containing four eggs on the Marls, July 6. We also obtained a fully grown bird of the year on July 18 at Great Bahama. Their habit of perching on the low bushes was frequently noted, and at such times they often uttered a sharp and plaintive cry of a single note. When startled, they fly about in an aimless sort of way up and down the marshes, now approaching, now swinging away from the observer, all the while uttering their loud "pill-will-willet." After comparing our series of skins with birds from the northern parts of America, we are unable to discover any constant or tangible differences.

27. *Ochthodromus wilsonius* (Ord). WILSON'S PLOVER; "SNIPE."—This was the only plover observed among the northern islands, and almost every sandy beach or mudflat had a pair or two of them. In many cases young birds but a few days from the egg were noticed running about at the water's edge or seeking shelter among the rocks and grass while the parent bird with loud cries endeavored to lead us away by feigning a broken wing or a crippled leg.

28. *Colinus bahamensis* Maynard. NEW PROVIDENCE BOB-WHITE.—A few were heard calling in the open pine barrens back of Nassau on July 26.

29. *Columba leucocephala* Linn. WHITE-CROWNED PIGEON; "PI-

GEON."—According to Cory, these handsome pigeons are rarely seen in the winter on account of their frequenting the thickly wooded parts of the islands, but "as soon as the summer season sets in they become gregarious, and repair in immense flocks to the outer keys to breed . . . Incubation commences about May 1." Green Cay, to the south of New Providence, is a famous nesting place. We found one large breeding colony on Moraine Cay, July 12-14, where hundreds of birds must have been nesting. The nests were built in the dense growth of bushes and vines, usually at from 4 to 6 feet from the ground. Many contained the complement of two eggs, others held young squabs, and some had one egg and one young bird. During much of the day many of the birds seemed to be absent and could be observed in the early morning leaving in small flocks for their feeding grounds on neighboring islands, but towards evening they returned, and we obtained a number of the incoming birds for our table. Practically all of a number thus obtained were males, whose crops were filled with small purple berries. At Great Abaco many birds came nightly to roost among certain large isolated clumps of mangroves growing in the shallow waters of the "bight" on the south side of the island. They would fly in at just about sunset, and we were told that later in the season they resorted to these roosts in large numbers. A great many are killed for the local markets by gunners who conceal themselves in these clumps and shoot the incoming birds. Those which we found during the first week of July at these mangroves must have finished breeding.

30. *Zenaida zenaida* (Bonap.). ZENAIDA DOVE; "WOOD DOVE."—This dove was apparently uncommon among the islands visited. Two or three individuals were seen at Stranger Cay, July 15-16, and about as many more among the large colony of breeding White-crowned Pigeons at Moraine Cay. All those seen were single birds and were quite tame in contrast to the pigeons, which were very wary.

31. *Columbigallina passerina bahamensis* (Maynard). BAHAMA GROUND DOVE: "TOBACCO DOVE."—On all the islands that had any considerable growth of trees and bushes this little dove was found to be generally distributed. Of the outer cays visited, a few were found on Elbow Cay, Great Guana Cay, Moraine Cay, Stranger Cay, and Great Sale Cay. At Elbow Cay, July 4, I came upon one of these birds about noon, sitting on her nest which contained neither eggs nor young. The nest was a loosely made platform of twigs and grass placed in the crotch of a small tree some ten feet from the ground. Clearings and cultivated fields, or the edges of woods are the favorite haunts of these doves, and much of their time is spent feeding on the ground.

32. *Cathartes aura* (Linn.). TURKEY VULTURE.—Buzzards were seen on the larger islands only of the northern group—Great Abaco, Little Abaco, Great Bahama, and Elbow Cay. At Little Abaco they were seen more numerous than elsewhere as they had been attracted by the remains of a recently slaughtered sheep. They appear to be quite absent

from the smaller uninhabited islands and cays. Curiously enough, also, they are unknown on New Providence, notwithstanding that it is more thickly settled than the other islands. Dr. Henry Bryant, in 1859, attributed this absence from the vicinity of Nassau to an inability to procure food, as "all the animals slaughtered there are literally devoured by the blacks." To the present writer, however, the voracity of the blacks seems hardly a sufficient explanation of this curious distribution. Northrop¹ found them "very common on Andros," but his statement that "more were seen on New Providence" is evidently a misprint for "none were seen on New Providence."

33. ?*Falco* sp.—At Great Abaco, on July 21, a small falcon, hovering after the manner of a Sparrow Hawk was seen for several moments, but so far away as to make identification impossible. At Nassau, we also saw what was undoubtedly a Sparrow Hawk, on June 29. It flew past at close range, so that its colors were fairly distinguishable.

We saw nothing of the Bahama Osprey nor of the resident Red-tailed Hawk during our entire trip.

34. *Strix pratincola* Bonap. AMERICAN BARN OWL.—At Hurricane Hole, Great Abaco, a single bird was started from a large open cave by the shore.

35. *Amazona bahamensis* (Bryant). BAHAMA PARROT.—We were interested to learn through the captain of our schooner, that a few parrots still exist on Great Abaco. He told us of having seen a flock near Marsh Harbor the year before (1903) and in previous years had sometimes observed a flock in late summer at that part of the island. We learned that at Acklin's Island, about 140 miles south of Nassau, parrots still nest in numbers and the young birds are regularly taken from the nest when fledged, and brought to Nassau to be sold as pets. Mr. Robert Johnstone, the Colonial Magistrate at Nassau, showed us a handsome bird which he had obtained in this way. It was very tame and docile, and frequently was allowed the liberty of the yard.

36. *Crotophaga ani* Linn. ANI; "JACKDAW"; "LONG-TAILED CROW."—On the larger islands Anis are not uncommon, and are usually found in the vicinity of cultivated lands and gardens. Yet they keep well out of sight and we saw but few at Nassau and vicinity. A small flock was seen at Elbow Cay, July 4, near a cocoanut grove, and at Little Abaco we were shown a nest with five eggs taken there shortly before our visit.

Of other members of the Cuculidæ we saw nothing though once or twice some cuckoo-like notes were heard but could not be identified.

37. *Dryobates villosus piger*,² subsp. nov.

Type.—Male, adult, No. 40207, collection of the Museum of Compara-

¹ Northrop: Auk, Vol. VIII, 1891, p. 76.

² *piger*, indolent, slow.

tive Zoölogy, Cambridge, Mass. Collected at Great Bahama Island, July 17, 1904, by Thomas Barbour and Glover M. Allen.

Subspecific characters.—A black spot on the inner web near the tip of each of the two outer pairs of tail feathers; the black stripe on the breast at each side is narrower and terminates less abruptly than in *D. v. auduboni* but is not continued as a series of streaks as it is in *D. v. maynardi*.

Description.—Adult male: crown, scapulars, upper tail coverts, a stripe behind the eye, and another below it from base of beak to neck and continued along side of upper breast, black. A white stripe above and one below the eye, united in front at base of bill, and often forming a ring which encircles the eye; a tuft of bristly feathers covering nostrils, and sometimes a few small feathers at base of upper mandible, white. Throat, breast, abdomen and under tail-coverts white, the body feathers with plumbeous bases; a white median stripe on the back. Wings brownish black with numerous rounded white spots. A red transverse occipital patch, which may show a tendency to a division into two lateral patches as in *D. v. auduboni*. The first outer pair of tail feathers white with a small amount of black at base of inner vane, and a black spot about 1 cm. from tip on margin of inner vane; second pair of tail feathers similar but with the black at the base extending up for $\frac{2}{3}$ the length of the inner vane and for a less amount on the outer vane of each, the terminal black spot usually larger than on first pair; third pair of tail feathers black save for a small subterminal patch of white mainly on the outer web; central pair of tail feathers entirely black.

Adult female similar but without the red occipital patch.

Size.—Smaller than *D. v. auduboni* of the mainland, but equalling *D. v. maynardi* of the more southern Bahamas. Wing: average of 5 specimens, 102 mm., as against an average of 112 mm., for 9 specimens of *D. v. auduboni*.

Specimens examined: Great Bahama, 2 (in collection of Mus. Comp. Zoöl.); Abaco, 5 (in collection of U. S. Nat. Mus.).

Remarks.—This race is more nearly related to *D. v. maynardi* than to the continental *D. v. auduboni*. Hairy Woodpeckers, in any considerable series, show more or less variation in the markings. In the series of 7 skins from the northern Bahamas, however, all save one have a well marked spot on the inner side of the first two pairs of tail feathers. The exception, a young ♀, No 108615, collection U. S. National Museum, from Abaco, shows a very small black spot on the inner web of the right outer tail feather only and none at all on the feathers of the second pair. In none of the 11 adult topotypes of *D. v. maynardi* in the Bangs collection, and that of the American Museum of Natural History, is there any trace of these black spots on either of the outer two pairs of tail feathers. Among the larger, continental Hairy Woodpeckers these spots rarely occur, but in one specimen in the collection of Mr. William Brewster they are in the nature of transverse bands such as are present normally in the case of the Downy Woodpecker.

In the Northern Bahama and the Maynard's Hairy Woodpeckers is seen a progressive reduction in the amount and extent of the black in the side stripe or epaulette, so that from a large, triangular patch with sharply defined borders in *D. v. auduboni* it becomes in *D. v. piger* a band with a less clear-cut limit posteriorly while in *D. v. maynardi* the band becomes finally reduced to a series of streaks at its posterior extension. This is due to the restriction of black in the terminal feathers of the stripe, so that while in *D. v. piger* most of these feathers are entirely or largely black, in *D. v. maynardi* the black is limited to a median streak. One of the New Providence specimens of *D. v. maynardi* (a fine adult female) has the breast stripe practically as in the Northern Bahama bird, but in all the other skins examined the difference is usually apparent at a glance.

Through the courtesy of the American Museum of Natural History, I have been able to examine four birds from Andros. These as expected, are quite typical of *D. v. maynardi*, and have unspotted tips to the outer two pairs of tail feathers, except that one specimen (an immature male) approaches the Northern Bahama bird in having a minute black spot on the inner web of the right outer tail feather and another on the left tail feather of the second pair.

We did not find this bird except among the open pine woods of Abaco and Great Bahama, where it apparently is generally distributed but not very common. Its movements impressed me as being slow and lethargic as compared with the energetic jerks and resounding thwacks of our New England Hairy Woodpecker. The notes were similar to those of our bird. All the specimens had the breast feathers stained a dull reddish from the pine bark.

38. *Centurus blakei* (Ridgw.). BLAKE'S WOODPECKER. — Near Sweeting's Village, Great Abaco, we found several of these woodpeckers on July 21, among the trees which here form a fairly respectable forest. One pair was accompanied by several fully grown young, which, however, were still being fed by the old birds. Their loud, tree toad-like rattle was very similar to that of our Red-headed Woodpecker. According to the natives these woodpeckers were almost always to be found in this particular vicinity, and, indeed, we did not meet with them elsewhere.

39. *Chordeiles virginianus vicinus* Riley. BAHAMA NIGHTHAWK; "KILLY-KA-DICK." — We found the newly-described Bahama Nighthawk common on most of the islands visited. At Nassau numbers of them were flying, towards sunset, and elsewhere we sometimes observed them at other hours of the day hawking after insects. On many of the outer cays they were almost always found in the strip of grass and scattered bushes just back of the beach, and on Moraine Cay we started several pairs from such cover in a walk of half a mile or less. When flushed they usually alighted again a short distance away. Their color harmonized well with that of their surroundings. On Moraine Cay a specimen

was taken whose plumage was unusually light because of a partially albinistic tendency. The four-syllabled note of the bird has gained for it its local name, rendered throughout the northern islands as "Killy-kadick." This note has the same penetrating quality as that of our northern bird, and oftentimes is heard apparently close at hand while the bird itself is a distant speck against the sky. We found them common at Great Bahama as well as on most of the cays.

40. *Riccordia æneoviridis* Palmer & Riley. BRONZY RICCORDIA.—This hummingbird occurs commonly with the following species on the "main" islands, Great Abaco, Little Abaco, and Great Bahama and also on all the outer cays wherever there is any considerable growth of bushes. On Great Bahama both species of hummingbirds were numerous, frequenting the bushy undergrowth in the open pine woods. On the larger cays we usually found them among the low bushes on the edges of open spaces, and often heard their squeaking notes as they darted past in playful pursuit of one another. On only one occasion did we see them off the islands. This was on July 4, when a bird flew past our schooner close to the water, crossing the bay at Elbow Cay off the Hopetown harbor. Its flight over sea was hardly less than a mile but the water was perfectly calm.

41. *Doricha evelynæ* (Bourc.). BAHAMA WOODSTAR.—On all the islands and cays wherever there was bush or tree growth this hummingbird occurred. Both species were especially numerous in the undergrowth of the Great Bahama pine woods. Curiously enough, this species does not seem to have been reported heretofore from Great Bahama though we found it there during our visit on July 17-18, and also on Elbow Cay, Moraine Cay, Stranger Cay, and at Nassau, New Providence.

42. *Tyrannus dominicensis* (Gmel.). GRAY KINGBIRD; "PICK-PETER."—This was one of the most conspicuous of the land birds and nesting pairs were found on all the islands and larger cays wherever there was a growth of tall bushes or trees. They prefer the vicinity of the water and even frequent the usually barren mangrove swamps, nesting along their edges. Nests with fresh eggs were found at Elbow Cay on July 5; these were usually placed in a crotch some ten feet from the ground or overhanging the water. The sharp notes of the birds were not unlike the words "Pick-Peter," whence the local name.

43. *Myiarchus leucaysiensis* Bryant. RUFIOUS-TAILED FLYCATCHER.—A pair only of these birds was seen at Cedar Harbor, Little Abaco, July 11. They were silent and kept near together along the bushes fringing a limestone bluff by the sea.

44. *Blacicus bahamensis* (Bryant). LEAST BAHAMA FLYCATCHER.—Among the open pine woods to the south of the city of Nassau, New Providence, we found two individuals of this little flycatcher, July 26. Their habits were somewhat like those of our Wood Pewee. They perched among the higher branches of the pines whence they occasionally darted after passing insects, and returned again to the same or a nearby

branch. They were rather lethargic in their motions and maintained an absolute silence. We did not meet with this bird elsewhere.

45. *Agelaius phœniceus bryanti* Ridgw. BAHAMA REDWING; "RICE-BIRD."—This is a common and characteristic bird of the larger islands wherever there are marshes and in the bushy growth along the shores of these islands and the cays. It is one of the few birds found among the mangrove swamps. They were very tame at all times and the males would sing fearlessly but a few feet from the observer. The breeding season seemed to be practically over by the first week of July, and we frequently found small family flocks consisting of the pair of old birds with their fully grown young. The song differs from that of our northern bird not only in its thin and scraping quality, but also in the addition of a note at the end of the bar, thus: *kon-ki-reé-ah* with a slight rising inflection.

46. *Icterus northropi* Allen. NORTHROP'S ORIOLE; "COCOANUT BIRD."—At Andros, Mr. Bryant obtained a single immature specimen near Mangrove Cay, in early August. We were also told by Mr. Meeres, of the Sisal Fiber Co., that he had taken a specimen of this rare oriole on Little Abaco early in July, 1904.

47. *Pyrhulagra violacea* (Linn.). PURPLE GROSBEAK.—We saw a few scattered flocks of this species on New Providence and Great Abaco, but did not meet with it elsewhere although it is known from the other larger islands. It appears to be quite absent from the cays.

48. *Tiaris bicolor* (Linn.). BAHAMA GRASSQUIT; "PARAKEET."—Everywhere among the islands this was an abundant species. Most of the old birds taken were in very worn breeding plumage and the nesting period seemed to be passed. Nevertheless male birds were in full song throughout July. Many of the birds seemed to be settled in certain localities where they were almost always to be found. They feed largely on the ground or among the low bushes, but at intervals a male will fly up to the top of a bush or sisal stalk and burst into song after which he presently returns to the ground again. At Nassau a male that frequented the hotel gardens usually flew to a telegraph wire stretched across at some twenty feet above the ground, when he wished to sing, but usually a more humble perch is chosen. We frequently saw small family parties of adult birds and fully grown young by the roadside, in thickets and open fields, or even about the houses. They were common in nearly all situations on the larger islands and were certain to be met with on all the outer cays in the less dense bushy growth. At Little Abaco, while visiting Mr. A. H. Nield of the Sisal Fiber Co., we were interested to observe the fearlessness of these little finches. They flew in at the open windows, and regularly visited the dining room at meal times for crumbs, or perched at arm's length from us on the piazza railing to sing.

49. *Spindalis zena* (Linn.). BLACK-BACKED SPINDALIS; "BANANA BIRD"; "COCK ROBIN."—At New Providence this was a common species, frequenting the edges of woods near cleared ground. Several

times we saw what seemed to be scattered flocks feeding on the ground or among the bushes, and on July 26th we heard several of them singing softly among the open pine woods. Mr. Bryant also secured a specimen at Andros. It has less white in the outer tail feathers than our New Providence specimen.

50. *Spindalis zena townsendi* Ridgway. TOWNSEND'S SPINDALIS.—This race is characteristic of the large islands of the northern Bahamas, and is strikingly different from the more southern *zena* by reason of its olive-green back. So far as at present known, it is found only on Great Abaco (type locality), Little Abaco, and Great Bahama. The only examples we met with were two specimens taken at Great Bahama among the thick undergrowth of the pine woods. The cays seem not to offer any attractions for this bird.

51. *Vireo calidris barbatulus* (Cab.). BLACK-WHISKERED VIREO.—This vireo is a bird of the more open tree growth, particularly in the neighborhood of cultivated lands. We met with it not infrequently on New Providence and Abaco, but saw none on Great Bahama, from which island it has not yet been reported. Its absence there is doubtless due to a lack of suitable tree growth, at least in the portions hitherto visited. The extensive pine forests seem to be wholly avoided by it. The song is somewhat similar to that of the Red-eyed Vireo, but less varied, almost a monotone, delivered in a quiet apathetic way from some hidden perch. On Elbow Cay, July 4, we found a nest of this bird swung from the slender fork of a small tree at some six feet from the ground. The nest contained a single egg of the usual vireo type, and appeared to be quite fresh. We also found this species on several of the larger cays where there were tall bushes, as at Stranger Cay.

52. *Vireo crassirostris* (Bryant). THICK-BILLED VIREO.—This species was the more conspicuous of the two vireos observed and was found on all the large islands and on most of the cays of any size. Its explosive little song was heard frequently during most of July and at times I was able to observe the singer sitting quite motionless on some small branch usually but a few feet from the ground. On the outer cays a few pairs were found here and there in the dense tangled growth of vines and small bushes which the Black-whiskered species generally avoids. We saw no nests, but full grown young were not uncommon. This species was noticeably tamer than the Black-whiskered, and it was a simple matter to approach a singing bird very closely for the cracking of twigs or stirring of branches seemed not to alarm it in the least.

53. *Callichelidon cyaneoviridis* (Bryant). BAHAMA SWALLOW.—At Nassau there was a small colony of these swallows about the Colonial Hotel. A few were to be seen at almost all hours of the day flying about the eaves or resting on the shelf-like cornice. We were unable to discover if the birds were breeding, but they seemed to use the hotel as a rendezvous. At Hurricane Hole, Great Abaco, on July 22, a flock of a dozen or more was watched for a while, flying back and forth about the

mouth of a large open cavern among whose upper ledges there may have been nests though no birds were seen to alight. A single swallow was also observed flying about on the edge of the pine woods at Great Bahama.

54. *Cœreba bahamensis* (Reich.). BAHAMA HONEY CREEPER; "YELLOWBREAST."—This is one of the commonest and most characteristic of the Bahaman land birds, and was found on every island and cay where there was tree or bush growth. Few or none occur in the mangroves, however. At New Providence in early July, we occasionally heard the peculiar wirey song of the Honey Creeper which has somewhat the quality of the Ruby-crowned Kinglet's intricate melody with a peculiar far-away and ethereal softness. Most of the birds were through nesting at the time of our visit and we found numbers of abandoned nests. These were usually from four to six feet from the ground, in the fork of a small bush, globular, with the entrance near the top at one side. A nest containing four partly incubated eggs was found July 4, at Elbow Cay. Everywhere on the islands, among the bushes and thickets were little groups of these birds, old and young. They were exceedingly tame and eyed us curiously, often but arm's length away. At Great Bahama we found them as abundant as elsewhere yet the species is almost unknown on the Florida coast only 60 miles distant. A partial albino was taken at Elbow Cay, July 5. The yellow patches were present as in normal specimens but the rest of the plumage was whitish.

55. *Dendroica petechia flaviceps* Chapman. BAHAMA YELLOW WARBLER.—This was nowhere a common bird though we found it among the large mangrove swamps in several localities as at Great Abaco, Moraine Cay, and Great Sale Cay. On July 4, at Elbow Cay, an adult male accompanied by two full grown young in immature plumage, was observed among some bushes not far from a small swamp. The bright song of the old bird somewhat resembled that of our *Dendroica aestiva*. On a few other occasions we observed singing birds; and while among the Great Abaco Marls we found several young birds of the year and one or two singing adults in a large mangrove "bush" or island, July 6.

56. *Dendroica dominica* (Linn.). YELLOW-THROATED WARBLER.—A single specimen was obtained at Mangrove Cay, Andros, by Mr. Owen Bryant on August 2. Another was also seen at Nassau by Mr. Bryant on August 7. Doubtless these were early migrants.

57. *Dendroica pityophila bahamensis* Cory. BAHAMA WARBLER.—So far as known this species is confined to the large islands of the northern Bahamas where it lives among the pines. We found a few at Great Bahama, and one immature bird taken there July 17, was just beginning to acquire the yellow breast and crown feathers. These are active, restless little birds and live well up among the branches of the slender pine trees. Several times we heard the short rich song during the afternoon of July 17.

58. *Dendroica vigersii achrustera* (Bangs). NEW PROVIDENCE PINE WARBLER.—This very distinct race is common on New Providence Island among the open pine woods, and we found birds in song during our stay there in early and late July. On July 26 an adult female was watched for some time as she waited upon one of her fully grown young. The latter was restless and during the intervals when its parent was absent in search of food, would fly here and there among the trees keeping up a constant chipping characteristic of many young warblers, in order that its parent might find it when she arrived with food.

59. *Dendroica vigersii abacoensis* Ridgway. ABACO PINE WARBLER.—Several specimens were obtained at Great Bahama, July 17 and 18, 1904, and these agree precisely with Ridgway's description of the Abaco bird. There can be no doubt that this is the form characteristic of the large islands of the northern group of the Bahamas. Since it frequents the open pine woods only, its range is restricted to the islands of Great Abaco, Little Abaco, and Great Bahama, where these trees grow. The habits and song of both these subspecies seemed indistinguishable from those of our Pine Warbler of the northern United States.

60. *Geothlypis tanneri* Ridgway. TANNER'S YELLOWTHROAT.—Unfortunately our collections do not throw very much light on the somewhat complicated problem of the geographical relationships of the various Bahama Yellowthroats. We were unsuccessful in finding the genus at all on New Providence, and after careful search among the islands of the northern group found only the species *tanneri*. This is common in bushy growths both on the "main" islands and on several of the larger cays. At Great Bahama a number of individuals were found both in the swamps along shore and among the bushes in the dry pine woods. All the specimens obtained are typical *tanneri*. The adult males still retained (July 18) their black cheek-patches, though the breeding season was about over. Specimens were taken on Great Bahama and Moraine Cay, and birds were also observed in full song on Abaco and Elbow Cay. At Moraine Cay, July 14, an adult male was seen feeding a full grown young bird which followed its parent closely, begging for food. The species *incompta* described by Ridgway from two Abaco specimens taken early in April, 1886, seems to represent the group of Yellowthroats with light abdomens. If it is actually resident among the northern Bahamas it is odd that we did not find it.

61. *Mimus gundlachi* (Cab.). BAHAMA MOCKINGBIRD.—On the outer cays where there is an abundance of thick bushes and tangled creepers this Mockingbird is not uncommon, although we found it rather shy and retiring. None were seen on any of the large islands, although Mr. Bonhote has found them in winter on New Providence and Little Abaco. At the time of our visit they seemed to be about through breeding, though some were seen tending fully grown young. Thus on Moraine Cay, July 13, an adult male was seen hopping quickly about on the ground among the undergrowth closely followed by two young birds whom he fed from time to time. The latter kept up all the while a fine sibilant

note which I at first mistook for the chirp of a grasshopper. On one or two occasions we heard the song of this Mockingbird, but most of them seemed to have stopped singing. We saw birds on Stranger Cay, Moraine Cay, and Great Sale Cay.

62. *Mimus polyglottos* (Linn.). MOCKINGBIRD.—As noted by Bonhote,¹ the White-winged Mockingbird of the northern Bahamas appears to be the same as the bird of the neighboring mainland. It seems to have come in within a recent period and keeps close to the villages and settlements. We found it commonly about the edges of clearings and cultivated ground at Elbow Cay, and discovered nests with fresh eggs at that place on July 4 and 5. Bonhote records the bird also from Great Abaco, as well as nests and eggs in March from Little Abaco. At the extensive sisal plantations on the latter island we saw numbers of the birds, particularly near the houses, and were told by Mr. Meeres, of the Sisal Fiber Company, that they had noticeably increased during the past few years. Many of the Mockingbirds were still in song, and I several times heard them at various hours of the night during the full moon of early July.

63. *Polioptila cærulea cæsiogaster* Ridgway. BAHAMA GNATCATCHER; "CATBIRD."—We met with this bird only twice among the northern islands, once on Elbow Cay, July 4, and again, July 17, a few were found at Great Bahama among the bushy growth of the pine woods.

64. *Mimocichla plumbea* (Linn.). PLUMBEOUS MOCKINGBIRD; "BLUE THRASHER."—Only two specimens of this bird were seen throughout our trip, one at Cedar Harbor, Little Abaco, on July 11, and a second near Sweeting's Village, Great Abaco, July 22. They were not shy but their manner of life among the thickets and their silence at this season of the year rendered them difficult to observe.

By way of summary it is interesting to group together the species of birds that inhabit the different sorts of country. Thus the following 20 species and subspecies occur chiefly if not exclusively on the larger "main" islands, as New Providence, the Abacos, and Great Bahama:

Pæcilonetta bahamensis.

Phænicopterus ruber.

Colinus bahamensis (New Providence).

Cathartes aura (except New Providence).

Amazona bahamensis (Great Abaco).

Crotophaga ani.

Dryobates villosus maynardi and *D. v. piger.*

Centurus blakei.

Myiarchus leucaysiensis.

¹ Bonhote: *Ibis*, Ser. 8, Vol. III, 1903, p. 276.

*Blacicus bahamensis.**Icterus northropi.**Pyrrhulagra violacea.**Spindalis zena zena* and *S. z. townsendi.**Dendroica pityophila bahamensis.**Dendroica vigorsii achrustera* and *D. v. abacoensis.**Mimus polyglottos.**Mimocichla plumbea.*

Of these, the Hairy Woodpeckers, Least Bahama Flycatcher, Bahama Warbler, and Pine Warblers we found in the pine growth only.

A few species, some 15 land birds, we found not only on the larger islands with their more varied growth, but also on the smaller and rather barren outer cays. These are mainly such birds as frequent thick bushes or the mangrove swamps. Those that we noted are the following:—

*Columba leucocephala.**Zenaidura macroura.**Columbigallina passerina bahamensis.**Chordeiles virginianus vicinus.**Riccordia œneoviridis.**Doricha œlynx.**Tyrannus dominicensis.**Agelaius phœniceus bryanti.**Tiaris bicolor.**Vireo calidris barbatulus* (rarely).*Vireo crassirostris.**Cœreba bahamensis.**Dendroica petechia flaviceps.**Geothlypis tunner.**Mimus gundlachi.*

These small cays apparently have no land birds peculiar to themselves.

The birds of the mangrove swamps are few. Cormorants and several of the Herons nest among their branches, and the Mangrove Warbler (*Dendroica petechia flaviceps*) is practically confined to them as far as we could observe. But otherwise they offer little attraction from an ornithological standpoint, and are quite barren and deserted save for a few Gray Kingbirds and Bahama Redwings that nest on their borders.

In conclusion I wish to express my thanks to Mr. Outram Bangs for his aid in identifying many of the specimens, and to the authorities of the American Museum of Natural History and of the United States National Museum for the loan of specimens for comparison. The greater part of the birds that we collected have been presented to the Museum of Comparative Zoölogy, at Cambridge, and the remainder have been added to Mr. Outram Bangs's collection of West Indian birds.